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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,468	02/12/2004	Joseph S. Stam	GEN10 P-454	2265

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EXAMINER
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ALLISON, ANDRAE S

ART UNIT	PAPER NUMBER
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2624

NOTIFICATION DATE	DELIVERY MODE
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08/17/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ptomail@priceheneveld.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/777,468	<b>Applicant(s)</b> STAM ET AL.	
	<b>Examiner</b> ANDRAE S. ALLISON	<b>Art Unit</b> 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on Appeal Bried Filed 05/17/2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-6, 17, 18, 23 and 24 is/are pending in the application.
- 4a) Of the above claim(s) 24, 25, 28, 29, 33 and 34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 17-18 and 23-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Remarks***

1. The Office Action has been made issued in response to Appeal Brief filed May 17, 2010. Claims 1-6, 17, 18, 23 and 24 are pending.

### **Claim Rejections – 35 USC section § 102&103**

On pages 8-9 of the response, Applicant argues that Kobayashi fails to teach a controller configured to effect automatic operation as a function of an ambient light value, wherein said ambient light value is a weighted average of a plurality of ambient light level readings acquired from a photo transducer, the Examiner agrees. Therefore, the previous rejection is withdrawn. However upon review of the prior art a new grounds of rejection is presented.

### ***Claim Objections***

2. Claim 1 objected to because of the following informalities: the phrase “further\_configured” should read “further configured” because the character '-' should be deleted.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-6, 17-18 and 23-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, 17 and 23 recite the limitation "a controller configured to effect automatic operation", however, the claims does not define what being operated; therefore, the claims are indefinite.

Claims 2-6, 18 and 24 are being rejected as incorporating the deficiencies of the claim upon which each respective claim depends.

### ***Double Patenting***

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 1-6, 17-18 and 23-24 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 10 of U.S. Patent No. 7,565,006. The conflicting claims are not identical because instant claim 17

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requires the additional step of “wherein said ambient light value is a weighted average of a plurality of ambient light level readings acquired from a photo transducer”, not required by patent claim 1. However, the conflicting claims are not patentably distinct from each other because:

- Claims 1 and 17 recite common subject matter;
- Whereby claim 17, which recites the open ended transitional phrase “comprising”, does not preclude the additional elements recited by claim 10, and
- Whereby the elements of claim 17 are fully anticipated by patent claim 1, and anticipation is “the ultimate or epitome of obviousness” (*In re Kalm*, 154 USPQ 10 (CCPA 1967), also *In re Dailey*, 178 USPQ 293 (CCPA 1973) and *In re Pearson*, 181 USPQ 641 (CCPA 1974)).

Instant Claims	US Patent No.: 7,565,006
Claim 17	Claim 1
An automatic vehicle exterior light control system, comprising:	An automatic vehicular exterior light control, comprising:
a controller configured to effect automatic operation as a function of an ambient light value, wherein said ambient light value is a weighted average of a plurality of	a controller configured to generate at least one exterior light control signal as a function of at least one probability function,

<p>ambient light level readings acquired from a photo transducer,</p>	
<p>aid controller is further_configured to identify the source of a reflection in an image by employing at least one of the parameters selected from the group comprising: mean grayscale value of at least a portion of at least one image, total grayscale value of at least a portion of at least one image, average grayscale value of at least a portion of at least one image, slope of pixel column location versus pixel grayscale value of at least a portion of a column of pixels within at least one image, slope of pixel row location versus pixel grayscale value of at least a portion of a column of pixels within at least one image, intercept of pixel column location versus pixel grayscale value of at least a portion of a column of pixels within at least one image, slope of pixel row location versus pixel grayscale value of at least a portion</p>	<p>wherein said at least one probability function comprises a plurality of variables and a substantially continuous output value having at least three states indicative of a probability; and wherein said variables are selected from the group of controlled vehicle associated operating parameters comprising: vehicle speed, ambient light level, vehicle turn rate, lane tracking, vehicle pitch, vehicle yaw, geographic location and road type.</p>

of a column of pixels within at least one image, a coefficient of determination, parabolic fit of at least a portion of column pixel value averages in at least one image, multiple images of differing exposure times, inputs from vehicle pitch sensors, a low-pass filter applied to at least a portion of an image, gradual vertical cutoff in at least a portion of pixel rows within at least one image, row average grayscale value net increase moving downward in at least one image, white-to-red ratio of at least one pixel in at least one white image and at least one pixel in at least one red spectral filtered image, sum of average grayscale values for at least one row in at least one image, increase brightness of controlled vehicle's exterior light and detect increase in reflection, at least one probability function, and at least one neural network

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi (US Patent No.: 6,254,259) in view of Kiyotaka (JP 01-281496)

As to independent claim 1, Kobayashi discloses an automatic vehicle exterior light control system (vehicle lamp system, see Fig 1), comprising: a controller (3, illumination control means, see Fig 1) configured to effect automatic operation as a function of an ambient light value, further configured to generate an exterior light control signal as a function of the presents of an atmospheric condition of interest (2, environment detection means, see Fig 1), wherein said controller is further configured to distinguish between reflections off of a highly reflective surface and reflections off of atmospheric conditions of interest (note that the environment detections means can determine the weather and road surface conditions using images; see column 2, lines 55-61), wherein an exterior light control output of said controller is in a first state when reflections off of a highly reflective surface are detected and said exterior light control output is in a second state when reflections off of atmospheric conditions of interest are detected (see column 4, lines 1-6, where the distribution of the luminous intensity changes based the atmospheric condition).



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Note the discussion above, Kobayashi does not expressly disclose wherein said ambient light is a weighted average of a plurality of ambient light level readings acquired from a photo transducer. Kiyotaka discloses a dimming controller for vehicle (see title) wherein said ambient light value is a weighted average of a plurality of ambient light level readings acquired from a photo transducer (see abstract). At the time of that the invention was made, it would have been obvious to a person of ordinary skill in the art to consider the dimming controller for vehicle of Kiyotaka as a modification to the teaching of Kobayashi to properly keep the dimming state of a luminous display part by selecting a detection result, on which illumination circumstances of a vehicle are accurately reflected in a high degree, to control dimming of the luminous display part in the vehicle

As to claim 2, Kobayashi teaches an automatic vehicle exterior light control system wherein said highly reflective surface is selected from the group comprising: an at least partially wet road, an at least partially snow covered road, an at least partially ice covered road, a surface of a snow pile along a road, and a surface of an at least partially snow covered road side (e.g. snowy, see column 3, lines 10-16, note that the reflective surfaces are examples of road surface conditions).

As to claim 3, Kobayashi teaches an automatic vehicle exterior light control system wherein said atmospheric condition of interest is selected from the group comprising: fog, mist, snow, sleet, hail, rain, steam, smoke and dust (e.g. fog, see column 3, lines 1-5, note that the atmospheric condition are examples of weather

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conditions).

As to claim 4, note the discussion of claim 2 above.

As to claim 6, Kobayashi teaches an automatic vehicle exterior light control system wherein said controller is further configured to manipulate an exterior light maximum brightness limit (see column 3, lines 56-60).

8. Claims 5 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi (US Patent No.: 6,254,259) in view Simpson et al (NPL document titled: "A Recurrent Neural Network Classifier for Improved Retrievals of Areal Extent of Snow Cover ").

As to claim 5, Kobayashi teaches an automatic vehicle exterior light control system wherein said reflections are identified by employing slope of pixel column location versus pixel grayscale value of at least a portion of a column of pixels within at least one image (see column 3, lines 50-52, where one of the parameter for the control means is the distribution of luminous intensity), increase brightness of controlled vehicle's exterior light (intensity of light, see column 3, lines 50-52). However Kobayashi does not expressly disclose at least one probability function, and at least one neural network. Simpson discloses a recurrent neural network classifier (see title), which includes at least one probability function (see page 2136, [p][005], lines 1-11

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where a probability function is used in the selection of texture models), and at least one neural network (NN, see Fig 1). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have combined the teachings of Kobayashi and Simpson to accurately determine the atmospheric or weather conditions by using a neural network to classify image data collected from the exterior of the vehicle because Kobayashi does not make this determination and neural networks are a well know way to make this type of determination.

As to claim 17, all the limitations are discussed above except: "wherein a state of an exterior light control output of said, controller is at least partially dependent upon. the source of said reflection in said image". Simpson teaches wherein a state of an exterior light control output of said, controller is at least partially dependent upon the source of said reflection in said image (see column 4, where the intensity of the light is dependent upon the detection of precipitation of now and density of fog).

As to claim 18, note the discussion of claim 6 above.

9. Claims 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jose (US Patent No.: 5,798,911) in view of Sekine et al (US Patent No.: 5,963,148).

As to independent claim 23, Josie disclose an automatic vehicle exterior light control system (automatic light system, see Fig 1), comprising: a controller (60, control means, see Fig 1) configured to effect automatic operation as a function of an ambient

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light value, wherein said ambient light is a weighted average of a plurality of ambient light level readings acquired from a photo transducer (see column 9, lines 4-10 – where the automatic light sensor contains a light sensor which measures the average external light intensity) further configured to detect at least one of a pedestrian and a bicyclist and further configured to provide a corresponding indication to an operator of a controlled vehicle, wherein a state of an exterior light control output of said controller is at least partially dependent upon detection of either a pedestrian or a bicyclist. (see column 11, lines 31-49, where an emergency condition such a pedestrian or wild animal is detected and the beam range is automatically reduced). However, Josie did not expressly disclose providing a corresponding indication to an operator of a controlled vehicle. Sekine disclose a road situation perceiving system, in which an indication is provided to an operator of a controlled vehicle if there is an obstacle present in the road (see Fig 2, Step 5). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have combined the teaching of Josie and Sekine to perceive a road situation ahead of a subject vehicle so that an appropriate countermeasure may be performed, if necessary, without relying on a driver's visual judgment (column 1, lines 37-42), while alerting the driver of an hazardous situation in the form of an alarm (column 2, lines 14-16) and also providing the driver with a view of the hazardous situation on a display (column 2, lines 54-59).

As to claim 24, neither Josie or Sekine disclose an automatic vehicle exterior light control system further configured to disable automatic operation of at least one

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high beam headlight in response to an operator activated input device. However, it would have been obvious to disable automatic operation of at least one high beam headlight in response to an operator activated input device to turn off the high beam in cases where the automatic vehicle exterior light control system fails to turn off the high beam so that an on coming car, a cyclist or pedestrian is not dazzle by the high beams (OFFICIAL NOTICE).

### ***Inquiries***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDRAE S. ALLISON whose telephone number is (571)270-1052. The examiner can normally be reached on Monday-Friday, 8:00 am - 5:00 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vu Le can be reached on (571) 272-7223. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anand Bhatnagar/  
Primary Examiner, Art Unit 2624  
August 11, 2010

/A. S. A./  
Examiner, Art Unit 2624